



UNITED STATES PATENT AND TRADEMARK OFFICE

My
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,837	04/26/2001	Gerard Terreault	428-B01.US	5819
22898	7590	02/03/2006	EXAMINER	
THE LAW OFFICES OF MIKIO ISHIMARU 333 W. EL CAMINO REAL SUITE 330 SUNNYVALE, CA 94087			MEEK, JACOB M	
		ART UNIT	PAPER NUMBER	
			2637	

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/841,837	TERREAULT ET AL.
	Examiner Jacob Meek	Art Unit 2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 21 November 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2,4 - 13, 18 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 2,4 - 13, 18 - 20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 April 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments regarding drawings filed December 3, 2005 have been fully considered but they are not persuasive.

With regard to applicant's argument regarding drawings. Given the complexity of applicant's claimed processing techniques for the calculation of received signal describing use of corner points and center point, examiner feels that an illustration of the process is required in order to properly understand operation of invention, and to further assist in differentiating applicant's claimed invention with admitted prior art.

2. Restatement of previous objection to drawings.

While MPEP 601.01(f) does state that applications for processes can be filed without drawings. Examiner first notes that this is not applicable in view of the fact that the applicant did file *some* drawings with application. Second, MPEP 601.01(f) also states that:

"Applications filed without drawings are initially inspected to determine whether a drawing is referred to in the specification, and if not, whether a drawing is necessary for the understanding of the invention. 35 U.S.C. 113 (first sentence)."

In view of the statistical analysis, processing and displaying steps claimed by applicant examiner holds that drawings are needed for the understanding of the processing claims, as flow charts are a typical part of any software design documentation package and are instrumental for the illustration of the operating process.

Objection to drawings is maintained.

3. Applicant's arguments with respect to claims 2, 4 – 13, 18 - 20 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a) because they fail to show operation of methods as described in the specification. There are no flowcharts demonstrating the operation of the method claimed by the applicant. Also, while referred to in claim and the specification the use of a receiver, a equalizer, and a spectrum analyzer is not supported in the drawings illustrating the use of these functions / functional blocks. Given the complexity of applicant's claimed processing techniques for the calculation of received signal describing use of corner points and center point, examiner feels that an illustration of the process is required in order to properly understand operation of invention, and to further assist in differentiating applicant's claimed invention with admitted prior art.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 4, and 18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With regard to claim 4, the method claimed by applicant is deemed non-statutory in that there is not practical application produced as a result of the processing.

With regard to claim 18, the method claimed by applicant is deemed non-statutory in that there is not practical application produced by the claim. While it is found that applicant's claim supports the acquisition of signal parameters, it is not found that acquisition of signal parameters (which is identified as known by applicant) produces a tangible or useful result since the acquired parameters are not used for any claimed purpose.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Art Unit: 2637

7. Claims 2, 4 - 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Pottinger et al (4,918,708).

With regard to Claim 4, Pottinger discloses a method for detecting and quantifying impairments of a QAM data communications system which: (a) stores a statistically significant number of a plurality of received points (see column 5, lines 9 – 50 where this is interpreted as equivalent) where impairments are selected from a group of compression ratio, I/Q gain imbalance ratio, I/Q phase imbalance, phase noise, signal to noise ratio, signal to interference ratio (see column 4, lines 48 – 58 where this is interpreted as inclusive of group identified); (b) analyzes components of received points of respective of groups with their respective ideal components of ideal values to quantify impairments of signal and provide calculated values (see column 5, line 51 – column 6, line 25); (c) and displays said calculated values of said impairments (see Figure 4A, 4B, 4C, 5, and 6). Pottinger does not disclose an identical technique for calculating coordinates of QAM constellation, however Pottinger is clear that his coordinate system has the same basis as applicant's (see figures 4, 5, and 6, column 6, line 61 – column 7, line 34, column 9, lines 42 – 47)). While applicant's disclosure identifies a more complex technique, the lack of a clear statement regarding improvement rendered by applicant's invention, it would have been obvious to one of ordinary skill in the art that the determination of ideal values could be made from a variety of reference points.

With regard to claim 2, Pottinger discloses a method for the storage of calculated values of impairments allowing for unmanned monitoring of signals (see Figure 3B, 82, and column 3, lines 45 – 46 and column 4, lines 16 – 28 where this functionality is interpreted as equivalent).

With regard to claim 5, Pottinger discloses a method for the measurement of signal compression ratio impairment (see Figures 4B, 8, and 9), and which displays the gain

compression ratio and is described in Appendix (Column 12, line 7 through column 13 line 62). Pottinger does not disclose an identical technique for calculating coordinates of QAM constellation, however Pottinger is clear that his coordinate system has the same basis as applicant's (see figures 4, 5, and 6, column 6, line 61 – column 7, line 34, column 9, lines 42 – 47)). While applicant's disclosure identifies a more complex technique, the lack of a clear statement regarding improvement rendered by applicant's invention, it would have been obvious to one of ordinary skill in the art that the determination of ideal values could be made from a variety of reference points.

With regard to claim 6, Pottinger discloses a method for the measurement and display of I/Q gain imbalance ratio impairment (see figure 4B, 8, 9; column 4, lines 48 – 58, and column 9, lines 42 - 47). Pottinger does not disclose an identical technique for calculating coordinates of QAM constellation, however Pottinger is clear that his coordinate system has the same basis as applicant's (see figures 4, 5, and 6, column 6, line 61 – column 7, line 34, column 9, lines 42 – 47)). While applicant's disclosure identifies a more complex technique, the lack of a clear statement regarding improvement rendered by applicant's invention, it would have been obvious to one of ordinary skill in the art that the determination of ideal values could be made from a variety of reference points.

With regard to claim 7, Pottinger discloses a method for the measurement and display of I/Q phase imbalance impairment (Figures 4A, 4C, 8, and 9 and column 9, lines 48 – 52). Pottinger does not disclose an identical technique for calculating coordinates of QAM constellation, however Pottinger is clear that his coordinate system has the same basis as applicant's (see figures 4, 5, and 6, column 6, line 61 – column 7, line 34, column 9, lines 42 – 47)). While applicant's disclosure identifies a more complex technique, the lack of a clear statement regarding improvement rendered by applicant's invention, it would have been

Art Unit: 2637

obvious to one of ordinary skill in the art that the determination of ideal values could be made from a variety of reference points.

Allowable Subject Matter

8. Claims 8 – 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
9. Claims 18 - 20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101 set forth in this Office action.

Other Cited Prior Art

10. The prior art previously made of record and not relied upon is considered pertinent to applicant's disclosure. This is added to clarify why references were cited.

Tsui et al (US-6,385,237, 1st office action) discloses techniques for QAM analysis that describe many aspects of applicant's claimed invention.

Bernard (US-5,394,185, 2nd office action) discloses hum measurement techniques for CATV systems in a spectrum analyzer with many characteristics similar to applicant's description of operation.

Tajiri et al (US-5,946,359, 2nd office action) discloses an apparatus for QAM analysis that describe many aspects of applicant's claimed invention.

Williams (US-6,151,559, 2nd office action) discloses a system and apparatus for QAM analysis that describe many aspects of applicant's claimed invention.

Art Unit: 2637

Al-Araji et al (US-6,556,239, 2nd office action) discloses an apparatus for distortion analysis of CATV networks that describe many aspects of applicant's claimed invention.

Kuntz et al (US-6,671,334, 2nd office action) discloses an apparatus for QAM analysis that describe many aspects of applicant's claimed invention.

NPL references are provided to show details of known techniques and products at the time of invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (571)272-3013. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM JMM

TEMESGHEN GHEBRETSASAE
PRIMARY EXAMINER